Annual Air Emission Inventory and Emission Statement

SPRAGUE ENERGY - SEARSPORT TERMINAL

General Facility Information

Facility ID:	**2302700022**	Inventory Year:	**2011**
Facility Name:	**SPRAGUE ENERGY - SEARSPORT TERMINAL**	Operating Status:	**Operating**
Description:	**PETROLEUM STORAGE**	Operating Status Year:	**2011**
NAICS Code:	**424710**	NAICS Description:	**Petroleum Bulk Stations and Terminals**
Parent Company:	**SPRAGUE OPERATING RESOURCES LLC**	Facility Category:	**Synthetic Minor**
Street Address:	**MACK POINT - TRUNDY RD** **PORTSMOUTH, ME 04974**	Mailing Address:	**TWO INTERNATIONAL DR STE 200** **PORTSMOUTH, NH 03802**
Air License Number:	**A-000097**	Air License Expiration Date:	
Latitude:	**44.439426**	Longitude:	**-68.887132**
Comment:	**no comment**		

Exhaust Points

Exhaust Point ID	Description	Type	Operating Status
EXH101	**FUGITIVE**	**Fugitive**	**Operating**
EXH002	**Generator Stack**	**Vertical**	**Operating**
EXH001	**Stack #1**	**Vertical**	**Operating**

Emissions Unit

Unit ID:	**028**	Operating Status:	**Operating**
Description:	**BOILER 1**	Operating Status Year:	**2011**
Unit Type/Desc:	**100 Boiler**		
Design Capacity:	**29.4 E6BTUHR**		
Comment:	**The facility site status was updated and set this comment.**		

2011 Operating Details

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year	Summer Operating Days
			5829	

Process

Process ID:	**028-1**	Description:	**#6 FUEL OIL / BUNKER C**
Comment:	**no comment**		
SCC Code:	**10200401**	Material Code:	**Residual Oil - No. 6**
Material IO Code:	**I (Burned)**	Material UOM Code:	**Thousands of Gallons**

2011 Throughput

Annual	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
293.082	23.9	25.155	28.535	29.674	22.63	19.242	15.737	30.591	19.974	23.528	30.858	23.258

Emissions

Pollutant Code	Pollutant Description	Type	Method	Emission Factor	Process Emissions Tons/Yr
NH3	Ammonia	CAP	EPA Emission Factor (no Control Efficiency used)	0.8 LB/E3GAL	0.11723281
CO	Carbon Monoxide	CAP	EPA Emission Factor (no Control Efficiency used)	5.0 LB/E3GAL	0.732705
7439921	Lead	CAP	Trade Group Emission Factor (no Control Efficiency used)	0.0042 LB/E3GAL	6.154722E-4
NOX	Nitrogen Oxides	CAP	Trade Group Emission Factor (no Control Efficiency used)	55.0 LB/E3GAL	8.059755
PM10-FIL	Particulate Matter, 10 microns, filterable	CAP	Trade Group Emission Factor (no Control Efficiency used)	6.67 LB/E3GAL	0.9774285
PM25-FIL	Particulate Matter, 2.5 microns, filterable	CAP	Trade Group Emission Factor (no Control Efficiency used)	4.34 LB/E3GAL	0.635988
SO2	Sulfur Dioxide	CAP	EPA Emission Factor (no Control Efficiency used)	157.0 LB/E3GAL	11.5034685

VOC	Volatile Organic Compounds	CAP	Trade Group Emission Factor (no Control Efficiency used)	0.28 LB/E3GAL	0.04103148
124389	Carbon Dioxide	GHG	State/Local Emission Factor (no Control Efficiency used)	25873.0 LB/E3GAL	3791.4553
74828	Methane	GHG	State/Local Emission Factor (no Control Efficiency used)	1.07 LB/E3GAL	0.15679887
10024972	Nitrous Oxide	GHG	State/Local Emission Factor (no Control Efficiency used)	0.11 LB/E3GAL	0.01611951
75070	Acetaldehyde	HAP	State/Local Emission Factor (no Control Efficiency used)	0.044 LB/E3GAL	0.006447804
107028	Acrolein	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0106 LB/E3GAL	0.0015533346
7440382	Arsenic	HAP	State/Local Emission Factor (no Control Efficiency used)	0.00132 LB/E3GAL	1.9343411E-4
71432	Benzene	HAP	State/Local Emission Factor (no Control Efficiency used)	2.14E-4 LB/E3GAL	3.1359774E-5
7440439	Cadmium	HAP	State/Local Emission Factor (no Control Efficiency used)	3.98E-4 LB/E3GAL	5.832332E-5
18540299	Chromium (VI) (Hexavalent Chromium)	HAP	State/Local Emission Factor (no Control Efficiency used)	2.48E-4 LB/E3GAL	3.6342168E-5
7440484	Cobalt	HAP	State/Local Emission Factor (no Control Efficiency used)	0.00602 LB/E3GAL	8.8217686E-4
600	Dioxin & Dioxin-like Compounds	HAP	State/Local Emission Factor (no Control Efficiency used)	2.65E-8 LB/E3GAL	3.8833363E-9
50000	Formaldehyde	HAP	State/Local Emission Factor (no Control Efficiency used)	0.033 LB/E3GAL	0.004835853
7439965	Manganese	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0030 LB/E3GAL	4.39623E-4
7439976	Mercury	HAP	State/Local Emission Factor (no Control Efficiency used)	1.13E-4 LB/E3GAL	1.6559134E-5
7440020	Nickel	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0845 LB/E3GAL	0.012382714
250	PAH/POM - Unspecified	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0013 LB/E3GAL	1.905033E-4

Control Approaches for BOILER 1

Control Approaches Not Reported

Exhaust Point Apportionments for BOILER 1

Exhaust Point ID	Exhaust Point Desc	Apportionment ID	Avg % Emissions	Comment
EXH001	**Stack #1**	**2302700022028001**	**100.0**	

Emissions Unit

Unit ID:	**030**	Operating Status:	**Operating**
Description:	**BOILER 2**	Operating Status Year:	**2011**
Unit Type/Desc:	**100 Boiler**		
Design Capacity:	**29.4 E6BTUHR**		
Comment:	**The facility site status was updated and set this comment.**		

2011 Operating Details

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year	Summer Operating Days
			6990	

Process

Process ID:	**030-1**	Description:	**#6 FUEL OIL / BUNKER C**
Comment:	**no comment**		
SCC Code:	**10200401**	Material Code:	**Residual Oil - No. 6**
Material IO Code:	**I (Burned)**	Material UOM Code:	**Thousands of Gallons**

2011 Throughput

Annual	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
405.071	29.846	34.57	37.049	42.553	49.35	32.234	36.563	21.781	25.367	35.706	33.111	26.941

Emissions

Pollutant Code	Pollutant Description	Type	Method	Emission Factor	Process Emissions Tons/Yr
NH3	Ammonia	CAP	EPA Emission Factor (no Control Efficiency used)	0.8 LB/E3GAL	0.16202842
CO	Carbon Monoxide	CAP	EPA Emission Factor (no Control Efficiency used)	5.0 LB/E3GAL	1.0126776
7439921	Lead	CAP	Trade Group Emission Factor (no Control Efficiency used)	0.0042 LB/E3GAL	8.5064914E-4
NOX	Nitrogen Oxides	CAP	Trade Group Emission Factor (no Control Efficiency used)	55.0 LB/E3GAL	11.139453
PM10-FIL	Particulate Matter, 10 microns, filterable	CAP	Trade Group Emission Factor (no Control Efficiency used)	6.67 LB/E3GAL	1.3509119
PM25-FIL	Particulate Matter, 2.5 microns, filterable	CAP	Trade Group Emission Factor (no Control Efficiency used)	4.34 LB/E3GAL	0.8790041
SO2	Sulfur Dioxide	CAP	EPA Emission Factor (no Control Efficiency used)	157.0 LB/E3GAL	15.899037

VOC	Volatile Organic Compounds	CAP	Trade Group Emission Factor (no Control Efficiency used)	0.28 LB/E3GAL	0.05670994
124389	Carbon Dioxide	GHG	State/Local Emission Factor (no Control Efficiency used)	25873.0 LB/E3GAL	5240.201
74828	Methane	GHG	State/Local Emission Factor (no Control Efficiency used)	1.07 LB/E3GAL	0.216713
10024972	Nitrous Oxide	GHG	State/Local Emission Factor (no Control Efficiency used)	0.11 LB/E3GAL	0.022278907
75070	Acetaldehyde	HAP	State/Local Emission Factor (no Control Efficiency used)	0.044 LB/E3GAL	0.008911562
107028	Acrolein	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0106 LB/E3GAL	0.0021468764
7440382	Arsenic	HAP	State/Local Emission Factor (no Control Efficiency used)	0.00132 LB/E3GAL	2.6734688E-4
71432	Benzene	HAP	State/Local Emission Factor (no Control Efficiency used)	2.14E-4 LB/E3GAL	4.33426E-5
7440439	Cadmium	HAP	State/Local Emission Factor (no Control Efficiency used)	3.98E-4 LB/E3GAL	8.0609134E-5
18540299	Chromium (VI) (Hexavalent Chromium)	HAP	State/Local Emission Factor (no Control Efficiency used)	2.48E-4 LB/E3GAL	5.0228806E-5
7440484	Cobalt	HAP	State/Local Emission Factor (no Control Efficiency used)	0.00602 LB/E3GAL	0.0012192638
600	Dioxin & Dioxin-like Compounds	HAP	State/Local Emission Factor (no Control Efficiency used)	2.65E-8 LB/E3GAL	5.367191E-9
50000	Formaldehyde	HAP	State/Local Emission Factor (no Control Efficiency used)	0.033 LB/E3GAL	0.0066836714
7439965	Manganese	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0030 LB/E3GAL	6.0760655E-4
7439976	Mercury	HAP	State/Local Emission Factor (no Control Efficiency used)	1.13E-4 LB/E3GAL	2.2886512E-5
7440020	Nickel	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0845 LB/E3GAL	0.01711425
250	PAH/POM - Unspecified	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0013 LB/E3GAL	2.6329616E-4

Control Approaches for BOILER 2

Control Approaches Not Reported

Exhaust Point Apportionments for BOILER 2

Exhaust Point ID	Exhaust Point Desc	Apportionment ID	Avg % Emissions	Comment
EXH001	**Stack #1**	**2302700022030001**	**100.0**	

Emissions Unit

Unit ID:	**031**	Operating Status:	**Operating**
Description:	**CONVEYOR BELTS / SCOOPS**	Operating Status Year:	**2011**
Unit Type/Desc:	**780 Silo**		
Design Capacity:			
Comment:	**The facility site status was updated and set this comment.**		

2011 Operating Details

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year	Summer Operating Days
24	7	52	8736	91

Process

Process ID:	**031-1**	Description:	**MATERIAL CONVEYING**
Comment:	**Process is included because of opacity limit only.**		
SCC Code:	**30510198**	Material Code:	**Material**
Material IO Code:	**I (Conveyed)**	Material UOM Code:	**Tons**

2011 Throughput

Annual	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
0	0	0	0	0	0	0	0	0	0	0	0	0

Emissions

Pollutant Code	Pollutant Description	Type	Method	Emission Factor	Process Emissions Tons/Yr
PM10-FIL	Particulate Matter, 10 microns, filterable	CAP	Engineering Judgement / Manual Calculation		0.0
	Comment: No quantifiable emissions. Opacity limits only.				

Control Approaches for CONVEYOR BELTS / SCOOPS

Control Approaches Not Reported

Exhaust Point Apportionments for CONVEYOR BELTS / SCOOPS

Exhaust Point ID	Exhaust Point Desc	Apportionment ID	Avg % Emissions	Comment
EXH101	**FUGITIVE**	**2302700022031101**	**100.0**	

Emissions Unit

Unit ID:	**032**	Operating Status:	**Operating**
Description:	**DEGREASER**	Operating Status Year:	**2011**
Unit Type/Desc:	**430 Degreaser**		
Design Capacity:			
Comment:	**The facility site status was updated and set this comment.**		

2011 Operating Details

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year	Summer Operating Days
24	7	52	8736	91

Process

Process ID:	**032-1**	Description:	**SOLVENT**
Comment:	**No citrusolv was purchased in 2011, therefore usage is zero.**		
SCC Code:	**40100296**	Material Code:	**Solvent**
Material IO Code:	**I (Consumed)**	Material UOM Code:	**Gallons**

2011 Throughput

Annual	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
0	0	0	0	0	0	0	0	0	0	0	0	0

Emissions

Pollutant Code	Pollutant Description	Type	Method	Emission Factor	Process Emissions Tons/Yr
VOC	Volatile Organic Compounds	CAP	Engineering Judgement / Manual Calculation		0.0

Comment: Sprague only utilizes aqueous-based solvents, therefore VOC emissions are zero.

Control Approaches for DEGREASER

Control Approaches Not Reported

Exhaust Point Apportionments for DEGREASER

Exhaust Point ID	Exhaust Point Desc	Apportionment ID	Avg % Emissions	Comment
EXH101	**FUGITIVE**	**2302700022032101**	**100.0**	

Emissions Unit

Unit ID:	**022**	Operating Status:	**Operating**
Description:	**EMERGENCY DIESEL GENERATR**	Operating Status Year:	**2011**
Unit Type/Desc:	**160 Reciprocating IC Engine**		
Design Capacity:	**1.46 E6BTUHR**		
Comment:	**The facility site status was updated and set this comment.**		

2011 Operating Details

Hours Per Day	Days Per Week	Weeks Per Year	Hours Per Year	Summer Operating Days
			54	

Process

Process ID:	**022-1**	Description:	**#2 FUEL OIL / DIESEL**
Comment:	**no comment**		
SCC Code:	**20300101**	Material Code:	**Distillate Oil - Diesel**
Material IO Code:	**I (Burned)**	Material UOM Code:	**Thousands of Gallons**

2011 Throughput

Annual	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
0.558	0	0	0	0	0	0	0	0	0	0	0	0

Emissions

Pollutant Code	Pollutant Description	Type	Method	Emission Factor	Process Emissions Tons/Yr
NH3	Ammonia	CAP	Site-specific Emission Factor	0.8 LB/E3GAL	2.2320001E-4
CO	Carbon Monoxide	CAP	Site-specific Emission Factor	131.1 LB/E3GAL	0.036576904
7439921	Lead	CAP	State/Local Emission Factor (no Control Efficiency used)	0.00126 LB/E3GAL	3.5154002E-7
NOX	Nitrogen Oxides	CAP	Site-specific Emission Factor	608.6 LB/E3GAL	0.1697994
PM10-FIL	Particulate Matter, 10 microns, filterable	CAP	Site-specific Emission Factor	17.25 LB/E3GAL	0.0048127505
PM25-FIL	Particulate Matter, 2.5 microns, filterable	CAP	Site-specific Emission Factor	17.25 LB/E3GAL	0.0048127505
SO2	Sulfur Dioxide	CAP	Site-specific Emission Factor	141.0 LB/E3GAL	0.00196695
VOC	Volatile Organic Compounds	CAP	Site-specific Emission Factor	48.3 LB/E3GAL	0.0134757

124389	Carbon Dioxide	GHG	State/Local Emission Factor (no Control Efficiency used)	22680.0 LB/E3GAL	6.32772
74828	Methane	GHG	State/Local Emission Factor (no Control Efficiency used)	0.06 LB/E3GAL	1.674E-5
10024972	Nitrous Oxide	GHG	State/Local Emission Factor (no Control Efficiency used)	0.13 LB/E3GAL	3.627E-5
75070	Acetaldehyde	HAP	State/Local Emission Factor (no Control Efficiency used)	0.106 LB/E3GAL	2.9574001E-5
107028	Acrolein	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0128 LB/E3GAL	3.5712003E-6
7440382	Arsenic	HAP	State/Local Emission Factor (no Control Efficiency used)	0.0015 LB/E3GAL	4.185E-7
71432	Benzene	HAP	Trade Group Emission Factor (no Control Efficiency used)	0.129 LB/E3GAL	3.5990997E-5
7440439	Cadmium	HAP	State/Local Emission Factor (no Control Efficiency used)	6.7E-4 LB/E3GAL	1.8693001E-7
18540299	Chromium (VI) (Hexavalent Chromium)	HAP	State/Local Emission Factor (no Control Efficiency used)	2.7E-4 LB/E3GAL	7.533E-8
7440484	Cobalt	HAP	State/Local Emission Factor (no Control Efficiency used)	2.1E-4 LB/E3GAL	5.859E-8
600	Dioxin & Dioxin-like Compounds	HAP	State/Local Emission Factor (no Control Efficiency used)	2.65E-8 LB/E3GAL	7.393501E-12
50000	Formaldehyde	HAP	Trade Group Emission Factor (no Control Efficiency used)	0.164 LB/E3GAL	4.5756005E-5
7439965	Manganese	HAP	State/Local Emission Factor (no Control Efficiency used)	8.32E-4 LB/E3GAL	2.32128E-7
7439976	Mercury	HAP	State/Local Emission Factor (no Control Efficiency used)	4.2E-4 LB/E3GAL	1.1718E-7
7440020	Nickel	HAP	State/Local Emission Factor (no Control Efficiency used)	6.4E-4 LB/E3GAL	1.7856E-7
250	PAH/POM - Unspecified	HAP	Trade Group Emission Factor (no Control Efficiency used)	0.0233 LB/E3GAL	6.5007002E-6

Control Approaches for EMERGENCY DIESEL GENERATR

Control Approaches Not Reported

Exhaust Point Apportionments for EMERGENCY DIESEL GENERATR

Exhaust Point ID	Exhaust Point Desc	Apportionment ID	Avg % Emissions	Comment
EXH002	**Generator Stack**	**2302700022022002**	**100.0**	

Completeness Report

Inventory Item	Check Number	Check Name	Description	Error Level	Justification
Process: MATERIAL CONVEYING	952	Required HAP's Reported	In a HAP year, emissions for the required HAP's must be reported.	Warning	no HAPs exceeding Chapter 137 thresholds were emitted in 2011.
Process: SOLVENT	952	Required HAP's Reported	In a HAP year, emissions for the required HAP's must be reported.	Warning	no HAPs exceeding Chapter 137 thresholds were emitted in 2011.

Facility Emissions

CAS NO.	Pollutant Description	Tons/Yr
	Volatile Organic Compounds	0.11121712
	Sulfur Dioxide	27.404472
	Particulate Matter, 2.5 microns, filterable	1.5198048
	Particulate Matter, 10 microns, filterable	2.3331532
	Nitrogen Oxides	19.369007
7664-41-7	Ammonia	0.27948442
	Carbon Monoxide	1.7819595
75-07-0	Acetaldehyde	0.01538894
74-82-8	Methane	0.3735286
7440-48-4	Cobalt	0.0021014994
7440-43-9	Cadmium	1.3911938E-4
7440-38-2	Arsenic	4.611995E-4
7440-02-0	Nickel	0.029497143
7439-97-6	Mercury	3.9562827E-5
7439-96-5	Manganese	0.0010474616
7439-92-1	Lead	0.0014664729
71-43-2	Benzene	1.1069337E-4
	Dioxin & Dioxin-like Compounds	9.257921E-9
50-00-0	Formaldehyde	0.01156528
	PAH/POM - Unspecified	4.6030016E-4
18540-29-9	Chromium (VI) (Hexavalent Chromium)	8.66463E-5
124-38-9	Carbon Dioxide	9037.984
107-02-8	Acrolein	0.003703782
10024-97-2	Nitrous Oxide	0.038434688